

In The Claims<sup>2</sup>

Please cancel claims 2-9, 17-18, 21, 26, 28-30, 34, 42, 47, 49-51, 54, 60, 73, 75-77, 79-84, 86-87, 89, 92-93, 95-96, 98-101, 103, 105-106, 108, 113, 117, 124-132, and 134, without prejudice.

Please amend the claims 10, 11, 16, 23, 27, 35, 38, 39, 43, 44, 58, 64, 78, 85, 88, 91, 94, 97, 102, 104, 107, 109, 110, 112, 114, 115, 116, 118, 119, 120, 121, 123, 135, 137, and 139 to read as follows:

10. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said antibody or antigen binding portion thereof has HIV-1 ; SF162 neutralizing activity.

11. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V1 domain of HIV-1SF162 gp120.

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<sup>2</sup> An "Appendix B: Claim Amendments" is enclosed herewith showing the amendments to the claims. In the Appendix, additions are underscored and deletions are bracketed.

16. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein the human antibody is a human monoclonal antibody.

23. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 1, wherein said human antibody comprises a heavy chain of the human antibody according to claim 20.

27. (Amended) A host cell transformed with the nucleic acid according to claim 24.

35. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein the human antibody is a human monoclonal antibody.

38. (Amended) The isolated human antibody or antigen-binding portion thereof according to claim 31, wherein said human antibody, wherein said antibody does not bind to a gp120 of HIV-1 IIIB, HBX2, HBX2d or BH10.

39. (Amended) A hybridoma cell line designated 8.22.2 and having ATCC Accession Number PTA-4007.

43. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 35, wherein said human monoclonal antibody comprises a heavy chain of the antibody according to claim 40.

44. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 35, wherein said human antibody comprises a heavy chain CDR1, CDR2 and CDR3 from the antibody according to claim 40.

58. (Amended) A hybridoma cell line selected from the group consisting of: cell line 8.27.3 (ATCC Accession Number PTA-3009) and cell line 8E11/A8 (ATCC Accession Number PTA-4012).

64. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 56, wherein said antibody has HIV-1 neutralizing activity.

78. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according any one of claims 16, 35 or 56, wherein the antibody or portion thereof is an immunoglobulin G (IgG), an IgM, an IgE, an IgA or an IgD molecule, or is derived therefrom.

85. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody or portion thereof is labeled.

88. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 85, wherein the label is selected from the group consisting of a radiolabel, an enzyme label, a toxin and a magnetic agent.

91. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody is a single chain antibody.

94. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody is a chimeric antibody.

97. (Amended) The chimeric antibody according to claim 94, wherein the chimeric antibody comprises framework regions and CDR regions from different human monoclonal antibodies.

102. (Amended) The chimeric antibody according to claim 94, wherein the chimeric antibody is bispecific.

104. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 16, 35 or 56 wherein the antibody or portion thereof is derivatized.

107. (Amended) The isolated human monoclonal antibody or antigen-binding portion thereof according to claim 104, wherein the antibody or portion thereof is derivatized with polyethylene glycol, at least one methyl or ethyl group or at least one carbohydrate moiety.

109. (Amended) A composition comprising an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4

(ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9, and a pharmaceutically acceptable carrier.

110. (Amended) The composition according to claim  
109 further comprising one or more additional therapeutic  
agents.

112. (Amended) A kit comprising a container  
comprising an isolated human antibody or antigen-binding  
portion thereof selected from the group consisting of  
an isolated human antibody or antigen-binding portion  
thereof that specifically binds to HIV-1 gp120 protein and  
that has HIV-1 neutralizing activity, wherein said antibody or  
antigen-binding portion thereof recognizes a epitope on a  
V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent  
on the presence of a sequence in the V1 loop;  
an isolated human monoclonal antibody produced by the  
hybridoma cell line selected from the group consisting of:  
cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line  
40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4  
(ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC  
Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession  
Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number  
PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003),  
cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line  
8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3

(ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9, and a pharmaceutically acceptable carrier therefor.

114. (Amended) The kit according to claim 112, further comprising another anti-viral agent, an immunomodulator or an immunostimulator, or any combination thereof.

115. (Amended) A method for treating a subject with an HIV-1 infection comprising the step of administering an

isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a

V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

116. (Amended) A method for preventing or inhibiting HIV-1 infection in a subject comprising the step of administering an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4

(ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

118. (Amended) A method for inhibiting HIV-1 virus binding to a T cell comprising the step of contacting said

virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of  
an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of:  
cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a

V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

119. (Amended) A method for inhibiting HIV-1 virus infection of a T cell comprising the step of contacting said virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a v1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4

(ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

120. (Amended) A method of inhibiting HIV-1 gp120-mediated binding comprising the step of contacting a gp120-

expressing HIV-1 virus with an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or

antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

121. (Amended) The method according to any one of claims 115 or 116, further comprising the step of administering one or more additional therapeutic agents.

123. (Amended) The method according to any one of claims 115 or 116, wherein said administering step is performed via an intravenous, subcutaneous, intramuscular, oral, pulmonary inhalation, transdermal or parenteral route.

135. (Amended) An isolated cell line that produces an isolated human antibody or antigen-binding portion thereof selected from the group consisting of

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said epitope is dependent on the presence of a sequence in the V1 loop;

an isolated human monoclonal antibody produced by the hybridoma cell line selected from the group consisting of: cell line 35D10/D2 (ATCC Accession Number PTA-3001), cell line 40H2/C7 (ATCC Accession Number PTA-3006), cell line 43A3/E4 (ATCC Accession Number PTA-3005), cell line 43C7/B9 (ATCC Accession Number PTA-3007), cell line 45D1/B7 (ATCC Accession Number PTA-3002), cell line 46E3/E6 (ATCC Accession Number PTA-3008), cell line 58E1/B3 (ATCC Accession Number PTA-3003), cell line 64B9/A6 (ATCC Accession Number PTA-3004), cell line 8.22.2 (ATCC Accession Number PTA-4007), and cell line 8.27.3 (ATCC Accession Number PTA-4012), or an antigen-binding portion thereof;

an isolated human antibody or antigen-binding portion thereof that specifically binds to HIV-1 gp120 protein and that has HIV-1 neutralizing activity, wherein said antibody or antigen-binding portion thereof recognizes a epitope on a V1/V2 domain of HIV-1 gp120, wherein said antibody or antigen

binding portion thereof recognizes a linear epitope on a V2 domain of HIV-1 gp120; and

an isolated human monoclonal antibody or antigen-binding portion thereof that specifically binds to an epitope on a V3 region of HIV-1 gp120, wherein said antibody binds to an epitope on the V3 region of HIV-1, and wherein said antibody does not specifically bind to a peptide consisting of SEQ ID NO: 9.

137. (Amended) The hybridoma according to claim 136 that produces an antibody selected from the group consisting of 35D10/D2, secreted by a hybridoma designated by ATCC Accession Number PTA-3001, 40H2/C7, secreted by a hybridoma designated by ATCC Accession Number PTA-3006, 43A3/E4, secreted by a hybridoma designated by ATCC Accession Number PTA-3005, 43C7/B9, secreted by a hybridoma designated by ATCC Accession Number PTA-3007, 45D1/B7, secreted by a hybridoma designated by ATCC Accession Number PTA-3002, 46E3/E6, secreted by a hybridoma designated by ATCC Accession Number PTA-3008, 58E1/B3 secreted by a hybridoma designated by ATCC Accession Number PTA-3003, 64B9/A6, secreted by a hybridoma designated by ATCC Accession Number PTA-3004, 8E11/A8 secreted by a hybridoma designated by ATCC Accession Number PTA-4012, 8.27.3, secreted by a hybridoma designated by